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Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	08/900220
				Filing Date	July 24, 1997
				First Named Inventor	Ningning Miao
				Art Unit	1640 1649
				Examiner Name	Brannock, Michael
Sheet	1	of	1	Attorney Docket Number	CIBT-P01-044

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U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-Issue number(s), publisher, city and/or country where published.	T ²
MB	AA	Drummond, I.A. Human desert hedgehog. NCBI Access No. AAB03398, submitted (2 June 1996).	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Examiner Signature	/Michael Brannock/	Date Considered	05/31/2006
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Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION (Use several sheets if necessary)	Docket Number (Optional) BIV-044.01(21459-4401)	Application Number 08/900,220
	Applicant Miao et al.	
	Filing Date July 24, 1997	Group Art Unit 1039 1649

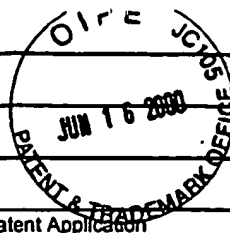
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EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
MB	KV 5, 759, 811	06/02/98	Epstein et al.	435	69.1	11/13/96
MB	KW 5, 223, 408	06/29/93	Goeddel et al.	435	69.3	07/11/91
MB	KX 4, 456, 687	06/26/84	Howard Green	435	241	12/01/80
MB	KY 5, 789, 543	08/04/98	Ingham et al.	530	350	12/30/93
MB	KZ 5, 844, 079	12/01/98	Ingham et al.	530	350	12/14/94
MB	LA 5, 585, 087	12/17/96	Lustig et al.	424	9.2	06/08/94
MB	LB 5, 837, 538	11/17/98	Scott et al.	435	325	10/06/95
MB	LC 5, 747, 507	05/05/98	Ikegaki et al.	514	312	08/10/93
MB	LD 5,643, 915	07/01/97	Andrulis, Jr. et al.	514	279	06/06/95
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	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
MB	LF WO 90/02809	3/22/90	PCT	C 12P	21/00		
MB	LG WO 92/15679	9/17/92	PCT	C 12N	15/10		
MB	LH WO 94/28016	12/08/94	PCT	C 07K	13/00		
MB	LI WO 95/23223	08/31/95	PCT	C 12N	15/00		
	LJ WO 96/ 09806	04/04/96	PCT				
	LK WO 96/11260	04/18/96	PCT	C 12N	5/00		
	LL WO 96/16668	06/06/96	PCT	A 61K	38/17		
	LM WO 96/17924	06/13/96	PCT	C 12N			
	LN WO 97/11095	03/27/97	PCT	C 07K	14/475		
	LO WO 97/45541	12/04/97	PCT	C 12N	15/12		
	LP WO 98/12326	03/26/98	PCT	C 12N	15/12		
	LQ WO 98/14475	04/09/98	PCT	C 07K	14/47		
	LR WO 98/21227	05/22/98	PCT	C 07H	21/04		
	LS WO 98/30234	07/16/98	PCT	A 61K	38/18		
	LT WO 98/30576	07/16/98	PCT	C 07K	1/100		
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	LV WO 99/00117	01/07/99	PCT	A 61K	31/00		
	LW WO 99/00403	01/07/99	PCT	C 07H	21/02		

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MB	LX	WO 99/01468	01/14/99	PCT	C 07K			
	LY	WO 99/10004	03/04/99	PCT	A 61K	38/00		
	LZ	WO 99/04775	02/04/99	PCT	A 61K	31/00		
	MA	EP 0187 371 A2 ✓	07/16/86	European Patent Application				
	MB	EP 0249 873 A2 ✓	06/10/87	European Patent Application				
	MC	EP 0879888 A2 ✓	11/25/98	European Patent Application	C 12N	15/12		
	MD	EP 0874048 A2 ✓	10/28/98	European Patent Application	C 12N	15/12		
	ME	JP 63 08 81 12		Japan				
	MF	JP 02 27 36 10		Japan				
	MG	JP 04 30 55 28		Japan				

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(Including Author, Title, Date, Pertinent Pages, Etc.)

	MH	Anderson, R. et al., "Maintenance of ZPA signaling in cultured mouse limb bud cells", <i>Devel.</i> 117 :1421-1433 (1993).						
	MI	Angier, N., "Biologists find key genes that shape patterning of embryos", <i>New York Times</i> , Jan. 11, 1994, C-1.						
	MJ	Basler, K. and G. Struhl, "Compartment boundaries and the control of <i>Drosophila</i> limb pattern by Hedgehog protein", <i>Nature</i> 368 :208-214 (1994).						
	MK	Basler, K. et al., "Control of cell pattern in the neural tube: Regulation of cell differentiation by <i>dorsalin-1</i> , a novel TGF β family member", <i>Cell</i> 73 :687-702 (1993).						
	ML	Bass, S. et al., "Hormone phage: An enrichment method for variant proteins with altered binding properties", <i>PROTEINS: Structure, Function, and Genetics</i> 8 :309-314 (1990).						
	MM	Bejsovec, A. and E. Wieschaus, "Segment polarity gene interactions modulate epidermal patterning in <i>Drosophila</i> embryos", <i>Development</i> 119 :501-517 (1993).						
	MN	Blenz, M., "Homeotic genes and positional signalling in the <i>Drosophila</i> viscera", <i>TIG</i> 10 :22-26 (Jan. 1994).						
	MO	Bitgood, M. and A. McMahon, "Hedgehog and Bmp genes are coexpressed at many diverse sites of cell-cell interaction in the mouse embryo", <i>Dev. Biol.</i> 172 (1):126-138 (1995).						
	MP	Blair, S. S., "Hedgehog digs up an old friend", <i>Nature</i> , 373 :656-657 (23 Feb. 1995).						
	MQ	Brand-Saberi, B. et al., "The ventralizing effect of the notochord on somite differentiation in chick embryos", <i>Anat. Embryol.</i> 188 :239-245 (1993).						
	MR	Brookes, J., "We may not have a morphogen", <i>Nature</i> 350 :15 (1991).						
	MS	Bumcrot, D. A. et al., "Proteolytic processing yields two secreted forms of sonic hedgehog", <i>Mol. Cell. Biol.</i> 15 (4):2294-2303 (April 1995).						
	MT	Bumcrot, D. A. and A. McMahon, "Sonic hedgehog: Making the gradient", <i>Chem. Biol.</i> 3 (1):13-16 (Jan 1996).						
	MU	Bumcrot, D. A. and A. McMahon, "Somite differentiation. Sonic signals somites", <i>Curr. Biol.</i> 5 (6):612-614 (June 1995).						
	MV	Charité, J. et al., "Ectopic expression of <i>Hoxb-8</i> causes duplication of the ZPA in the forelimb and homeotic transformation of axial structures", <i>Cell</i> 78 :589-601 (1994).						
	MW	Coffman, et al., "Xotch, the <i>Xenopus</i> homolog of <i>Drosophila</i> notch", <i>Science</i> 249 :1438-1441 (1990).						
↓	MX	Concordet, J. and P. Ingham, "Developmental biology. Patterning goes sonic", <i>Nature</i> 375 (6529):279-280 (May 1995).						

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MB	MY	Curry, et al., "Sequence analysis reveals homology between two proteins of the flagellar radial spoke", <i>Mol. Cell. Biol.</i> 12 :3967-3977 (1992).
	MZ	Davidson, E. H., "How embryos work: a comparative view of diverse modes of cell fate specification", <i>Develop.</i> 108 :365-389 (1990).
	NA	Davis, A. P. and M. R. Capecchi, "Axial homeosis and appendicular skeleton defects in mice with a targeted disruption of <i>hoxd-1</i> ", <i>Devel.</i> 120 :2187-2198 (1994).
	NB	Dickinson, W., "Molecules and morphology: Where's the homology", <i>TIG</i> 11 (4):119-120 (1995).
	NC	Dingemans, M. A. et al., "The expression of liver-specific genes within rat embryonic hepatocytes is a discontinuous process", <i>Differentiation</i> 56 :153-162 (1994).
	NDO	Dollé, P. et al., "Coordinate expression of the murine <i>Hox-5</i> complex homeobox-containing genes during limb pattern formation", <i>Nature</i> 342 :767-772 (1989).
	NE	Dollé, P. et al., "Disruption of the <i>Hoxd-13</i> gene induces localized heterochrony leading to mice with neotenic limbs", <i>Cell</i> 75 :431-441 (1993).
	NF	Echelard, Y. et al., "Sonic hedgehog, a member of a family of putative signaling molecules, is implicated in the regulation of CNS polarity", <i>Cell</i> 75 :1417-1430 (1993).
	NG	Ekker, S. et al., "Distinct expression and shared activities of members of the hedgehog gene family of <i>xenopus laevis</i> ", <i>Devel.</i> 121 (8):2337-2347 (Aug. 1995).
	NH	Ericson, J. et al., "Sonic hedgehog induces the differentiation of ventral forebrain neurons: a common signal for ventral patterning within the neural tube", <i>Cell</i> 81 (5):747-756 (June 1995).
	NI	Ettalaie, C. et al., "The effect of lipid peroxidation and lipolysis on the ability of lipoproteins to influence thromboplastin activity", <i>Biochim. Biophys. Acta.</i> 1257 (1):25-30 (June 1995).
	NJ	Fahmer, K. et al., "Transcription of <i>H-2</i> and <i>Qa</i> genes in embryonic and adult mice", <i>EMBO J.</i> 6 :1265-1271 (1987).
	NK	Fallon, J. F. et al., "FGF-2: Apical ectodermal ridge growth signal for chick limb development", <i>Science</i> 264 :104-107 (1994).
	NL	Fan, C. et al., "Long-range sclerotome induction by sonic hedgehog: Direct role of the amino-terminal cleavage product and modulation by the cyclic AMP signaling pathway", <i>Cell</i> 81 :457-465 (5 May 1995).
	NM	Fietz, M. et al., "The hedgehog gene family in <i>Drosophila</i> and vertebrate development", <i>Devel. (Suppl.)</i> :43-51 (1994).
	NN	Forbes, A. J. et al., "Genetic analysis of <i>hedgehog</i> signaling in the <i>Drosophila</i> embryo", <i>Devel.</i> 119 (Suppl.):115-124 (1993).
	NO	Francis, P. H. et al., "Bone morphogenetic proteins and a signaling pathway that controls patterning in the developing chick limb", <i>Devel.</i> 120 :209-218 (1994).
	NP	Gallop, M. et al., "Applications of combinatorial technologies to drug discovery. 1. Background and peptide combinatorial libraries", <i>J. Med. Chem.</i> 37 (9):1233-1251 (1994).
	NQ	Gérard, M. et al., "Structure and activity of regulatory elements involved in the activation of the <i>Hoxd-11</i> gene during late gastrulation", <i>EMBO J.</i> 12 :3539-3550 (1993).
	NR	Gurdon, J. B., "The generation of diversity and pattern in animal development", <i>Cell</i> 68 :185-199 (1992).
	NS	Gustin, et al., "Characterization of the Role of Individual Protein Binding Motifs Within the Hepatitis B Virus Enhancer 1 on X Promoter Activity Using Linker Scanning Mutagenesis", <i>Virology</i> 193 : 653-660 (1993)
	NT	Hall, T. et al., "A potential catalytic site revealed by the 1.7- Å crystal structure of the amino-terminal signaling domain of sonic hedgehog", <i>Nature</i> 378 (6553):212-216 (Nov 1995).
	NU	Halpern, M. E. "Induction of Muscle Pioneers and Floor Plate is Distinguished by the Zebrafish no tail Mutation", <i>Cell</i> 75 : 99-111 (1993).
	NV	Hamburger, V. and H. L. Hamilton, "A series of normal stages in the development of the chick embryo", <i>J. Morph.</i> 88 :49-92 (1951).
V	NW	Hammerschmidt, M. et al., "The world according to hedgehog", <i>TIG</i> 13 (1):14-21 (1997).

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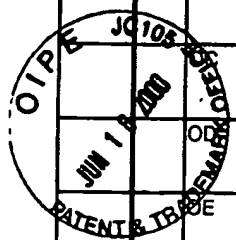
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MB	NX	Haramis, A. et al., "The limb deformity mutation disrupts the SHH/FGF-4 feedback loop and regulation of 5' <i>HoxD</i> genes during limb pattern formation", <i>Devel.</i> 121 (12):4161-4170 (Dec. 1995).
	NY	Hardy, A. et al., "Gene expression, polarising activity and skeletal patterning in reaggregated hind limb mesenchyme", <i>Devel.</i> 121 (12):4329-4337 (Dec. 1995).
	NZ	Harmon, C. S. et al., "Evidence that activation of protein kinase A inhibits human hair follicle growth and hair fibre production in organ culture and DNA synthesis in human and mouse hair follicle organ culture", <i>British J. Dermatol.</i> 136 :853-858 (1997).
	OA	Hatta, K. et al., "The cyclops mutation blocks specification of the floor plate of the zebrafish central nervous system", <i>Nature</i> 350 :339-341 (1991).
	OB	Heberlein, U. et al., "The TGB β homolog <i>dpp</i> and the segment polarity gene <i>hedgehog</i> are required for propagation of a morphogenetic wave in the <i>Drosophila</i> retina", <i>Cell</i> 75 :913-926 (1993).
		Heemskerk, J. and S. DiNardo, " <i>Drosophila hedgehog</i> acts as a morphogen in cellular patterning", <i>Cell</i> 76 :449-460 (1994).
	OD	Hidalgo, A. and P. Ingham, "Cell patterning in the <i>Drosophila</i> segment: spatial regulation of the segment polarity gene <i>patched</i> ", <i>Devel.</i> 110 :291-301 (1990).
	OE	Hooper, J. and M. Scott, "The <i>Drosophila patched</i> gene encodes a putative membrane protein required for segmental patterning", <i>Cell</i> 59 :751-765 (1989).
	OF	Hynes, R. O., "Integrins: A family of cell surface receptors", <i>Cell</i> 48 :549-554 (1987).
	OG	Ingham, P. W., "Signaling by hedgehog family proteins in <i>Drosophila</i> and vertebrate development", <i>Curr. Opin. Genet. Dev.</i> 5 (4):478-484 (Aug 1995).
	OH	Ingham, P. W., "Hedgehog points the way", <i>Current Biology</i> 4 (4):347-350 (1994).
	OI	Ingham, P. W., "Localized <i>Hedgehog</i> activity controls spatial limits of wingless transcription in the <i>Drosophila</i> embryo", <i>Nature</i> 366 :560-562 (1993).
	OJ	Ingham, P. W. and A. Hidalgo, "Regulation of wingless transcription in the <i>Drosophila</i> embryo", <i>Devel.</i> 117 :283-291 (1993).
	OK	Ingham, P. W. et al., "Role of the <i>Drosophila patched</i> gene in positional signaling", <i>Nature</i> 353 :184-187 (1991).
	OL	Izpisua-Belmonte, J. -C. et al., "Expression of the homeobox <i>Hox-4</i> genes and the specification of position in chick wing development", <i>Nature</i> 350 :585-589 (1991).
	OM	Izpisua-Belmonte, J. -C. et al., "Expression of <i>Hox-4</i> genes in the chick wings links pattern formation to the epithelial-mesenchymal interaction that mediates growth", <i>EMBO J.</i> 11 :1451-1457 (1992).
	ON	Jiang, J. and G. Struhl, "Protein kinase A and hedgehog signaling in <i>Drosophila</i> limb development", <i>Cell</i> 80 (4):563-572 (Feb. 1995).
	OO	Jessel, T. M. and D. A. Melton, "Diffusible factors in vertebrate embryonic induction", <i>Cell</i> 68 :257-270 (1992).
	OP	Johnson, R. L. and C. Tabin, "The long and short of hedgehog signaling", <i>Cell</i> 81 :313-315 (5 May 1995).
	OQ	Johnson, R. L. et al., "Patched overexpression alters wing disc size and pattern: transcriptional and post-transcriptional effects on hedgehog targets", <i>Devel.</i> 121 (12):4237-4245 (Dec. 1995).
	OR	Johnson, R. L. et al., "Ectopic expression of sonic hedgehog alters dorsal-ventral patterning of somites", <i>Cell</i> 79 (7):1165-1173 (Dec. 1994).
	OS	Johnson, R. L. et al., "Mechanism of limb patterning", <i>Curr. Opin. Genet. Dev.</i> 4 (4):535-542 (Aug. 1994).
	OT	Johnson, R. L. et al., "Sonic hedgehog: a key mediator of anterior-posterior patterning of the limb and dorso-ventral patterning of axial embryonic structures" <i>Biochem. Soc. Trans.</i> 22 (3):569-574 (Aug. 1994).
	OU	Jones, M. et al., "Involvement of bone morphogenetic protein-4 (BMP-4) and Vgr-1 in morphogenesis and neurogenesis in the mouse", <i>Devel.</i> 111 :531-542 (1991).
✓	OV	Kalderon, D., "Morphogenetic signalling. Responses to hedgehog" <i>Curr. Biol.</i> 5 (6):580-582 (June 1995).



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MB	OW	Koonin, E., "A protein splice-junction motif in hedgehog family proteins", <i>Trends Biochem. Sci.</i> 20 (4):141-142 (April 1995).
	OX	Komblith, A. R. et al., "Primary structure of human fibronectin: differential splicing may generate at least 10 polypeptides from a single gene", <i>EMBO J.</i> 4 :1755-1759 (1985).
	OY	Kornfeld, R. and S. Kornfeld, "Assembly of asparagine-linked oligosaccharides", <i>Ann. Rev. Biochem.</i> 54 :631-664(1985).
	OZ	Krauss, S. et al., "Expression of the zebrafish paired box gene <i>pax[zf-b]</i> during early neurogenesis", <i>Devel.</i> 113 :1193-1206 (1991).
	PA	Krauss, S. et al., "A functionally conserved homolog of the Drosophila Segment polarity gene <i>hh</i> is expressed in tissues with polarizing activity in zebrafish embryos", <i>Cell</i> 75 :1431-1444 (1993).
	PB	Lai, C. et al., "Patterning of the neural ectoderm of <i>Xenopus laevis</i> by the amino-terminal product of hedgehog autoproteolytic cleavage", <i>Devel.</i> 121 :2349-2360 (1995).
	PC	Laufer, E. et al., "Sonic hedgehog and <i>Fgf-4</i> act through a signaling cascade and feedback loop to integrate growth and patterning of the developing limb bud", <i>Cell</i> 79 :993-1003 (16 Dec. 1994).
	PD	Lee, J. J. et al., "Secretion and localized transcription suggest a role in positional signaling for products of the segmentation gene <i>hedgehog</i> ", <i>Cell</i> 71 :33-50 (1992).
	PE	Lee, J. J. et al., "Autoproteolysis in hedgehog protein biogenesis", <i>Science</i> 266 (5190):1528-1537 (Dec. 1994).
	PF	Lee, S. J., "Expression of growth/ differentiation factor1 in the nervous system: Conservation of a bidistronic structure", <i>Proc. Natl. Acad. Sci. USA</i> 88 :4250-4254 (Year).
	PG	Levin, M. et al., "A molecular pathway determining left-right asymmetry in chick embryogenesis", <i>Cell</i> 82 (5):803-814 (Sept. 8, 1995).
	PH	Li, W. et al., "Function of protein kinase A in hedgehog signal transduction and drosophila imaginal disc development", <i>Cell</i> 80 (4):553-562(Feb. 1995).
	PI	Lopez-Martinez, A. et al., "Limb-patterning activity and restricted posterior localization of the amino-terminal product of sonic hedgehog cleavage", <i>Curr. Biol.</i> 5 (7):791-796 (July 1995).
	PJ	Lumsden, A. and A. Graham, "Neural patterning: A forward role for hedgehog", <i>Curr. Biol.</i> 5 (12):1347-1350 (Dec. 1995).
	PK	Ma, C. et al., "Molecular cloning and characterization of rKlk10, a cDNA encoding T-kininogenase from rat submandibular gland and kidney", <i>Biochem.</i> 31 (44):10922-10928 (1992).
	PL	Ma, C. et al., "The segment polarity gene <i>hedgehog</i> is required for the progression of the morphogenetic furrow in the developing <i>Drosophila</i> eye", <i>Cell</i> 75 :927-938 (1993).
	PM	Ma, C. and K. Moses, " <i>Wingless</i> and <i>patched</i> are negative regulators of the morphogenetic furrow and can affect tissue polarity in the developing <i>Drosophila</i> compound eye", <i>Devel.</i> 121 (8):2279-2289 (Aug. 1995).
	PN	Marigo, V. et al., "Biochemical evidence that <i>patched</i> is the hedgehog receptor", <i>Nature</i> 384 :176-179 (1996).
	PO	Maccabe, J. A. and B. W. Parker, "The target tissue of limb-bud polarizing activity in the induction of supernumerary structures", <i>J. Embryol. Exp. Morph.</i> 53 :67-73 (1979).
	PP	Malese, K. et al., "Protein kinases modulate the sensitivity of hippocampal neurons to nitric oxide toxicity and anoxia", <i>J. Neurosci. Res.</i> 36 :77-87 (1993).
	PQ	Marti, E. et al., "Distribution of Sonic hedgehog peptides in the developing chick and mouse embryo", <i>Devel.</i> 121 (8):2537-2547 (Aug. 1995).
	PR	Marti, E. et al., "Requirement of 19K form of Sonic hedgehog for induction of distinct ventral cell types in CNS explants", <i>Nature</i> 375 (6529):322-325 (May 1995).
	PS	Mavilio, F. et al., "Activation of four homeobox gene clusters in human embryonal carcinoma cells induced to differentiate by retinoic acid", <i>Differentiation</i> 37 :73-79 (1988).
	PT	McGinnis, W. and R. Krumlauf, "Homeobox genes and axial patterning", <i>Cell</i> 68 :283-302 (1992).
✓	PU	Mohler, J., "Requirements for <i>hedgehog</i> , a segmental polarity gene, in patterning larval and adult cuticle of <i>drosophila</i> ", <i>Genetics</i> 120 :1061-1072 (1988).

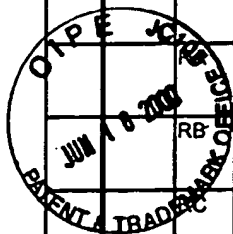
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	PW	Morgan, B. A. et al., "Targeted misexpression of <i>Hox-4.6</i> in the avian limb bud causes apparent homeotic transformations", <i>Nature</i> 358 :236-239 (1992).
	PX	Nakano, Y. et al., "A protein with several possible membrane-spanning domains encoded by the <i>Drosophila</i> segment polarity gene <i>patched</i> ", <i>Nature</i> 341 :508-513 (1989).
	PY	Ngo, J. et al., "Computational Complexity Protein", Merz and LeGrand, ed. @ Birkhauser Boston (1994).
	PZ	Niswander, L. and G. R. Martin, "FGF-4 and BMP-2 have opposite effects on limb growth", <i>Nature</i> 361 :68-71(1993).
	QA	Niswander, L. et al., "A positive feedback loop coordinates growth and patterning in the vertebrate limb", <i>Nature</i> , 371 :609-612 (October 1994).
	QB	Nohno, T. et al., "Involvement of the <i>Chox-4</i> Chicken Homeobox Genes in Determination of Anteroposterior Axial Polarity during Limb Development", <i>Cell</i> , Vol. 64 : 1197- 1205 (March 22, 1991).
	QC	Nohno, T. et al., "Involvement of the Sonic hedgehog gene in chick feather formation", <i>Biochem. Biophys. Res. Comm.</i> 206 (1): 33-39 (Jan. 1995).
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